

WHAT IS CLAIMED IS:

1. A switch device for use by an operator and connection to an actuator, for enabling the actuator to be driven when an ID code transmitted from a transponder of a portable device matches a predetermined ID code of a vehicle controller, the switch device comprising:

an operation switch operated by the operator for driving the actuator;

10 a decorative member arranged to surround the operation switch, the decorative member having an ornamental surface; and

15 a communication means arranged adjacent to the decorative member for transmitting a transponder-driving radio wave that causes the transponder to generate electromotive force used to transmit the ID code, wherein the decorative member includes a transmittable area for transmitting the transponder-driving radio wave, the transmittable area being formed in a part of the decorative 20 member excluding the ornamental surface.

2. The switch device according to claim 1, wherein the decorative member includes decorative plating, and the transmittable area is formed in a part of the decorative 25 member excluding the decorative plating.

3. The switch device according to claim 1, wherein the communication means includes a coil antenna.

30 4. The switch device according to claim 3, wherein the coil antenna and the operation switch are arranged so that an axis of the coil antenna and an axis of the operation switch substantially coincide with each other.

5. The switch device according to claim 1, wherein
the decorative member is attached to the operation switch in
a rotatable manner so that the transmittable area is movable
5 to a position corresponding to the communication means.

6. The switch device according to claim 5, further
comprising:

10 a detection switch for detecting that the transmittable
area has moved to the position corresponding to the
communication means, wherein the communication means
transmits the transponder-driving radio wave based on the
movement of the transmittable area detected by the detection
switch.

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7. A switch device for use by an operator and
connection to an actuator, for enabling the actuator to be
driven when an ID code transmitted from a transponder of a
portable device matches a predetermined ID code of a vehicle
20 controller, the switch device comprising:

an operation switch operated by the operator for
driving the actuator, the operation switch including an
operation button and a case;

25 a coil antenna wound around the case for transmitting a
transponder-driving radio wave that causes the transponder
to generate electromotive force used to transmit the ID
code; and

30 a decorative member attached to the case to surround
the operation button and the coil antenna, the decorative
member having an ornamental surface that is furnished with
decorative plating and is exposed, wherein the decorative
member includes a transmittable area for transmitting the
transponder-driving radio wave, the transmittable area being

formed in a part of the decorative member that excludes the ornamental surface and that corresponds to an outer side and an inner side of the coil antenna.

5 8. A switch device for use by an operator and connection to an actuator, for enabling the actuator to be driven when an ID code transmitted from a transponder of a portable device matches a predetermined ID code of a vehicle controller, the switch device comprising:

10 an operation switch operated by the operator for driving the actuator;
 a decorative member arranged to surround the operation switch;
 a communication means arranged adjacent to the decorative member for transmitting a transponder-driving radio wave that causes the transponder to generate electromotive force used to transmit the ID code; and
15 a ferromagnetic body, arranged between the communication means and the decorative member, for amplifying the transponder-driving radio wave.

25 9. The switch device according to claim 8, wherein the communication means has an inner circumferential surface, and the ferromagnetic body is arranged along the inner circumferential surface of the communication means.

30 10. The switch device according to claim 8, wherein the ferromagnetic body is an amorphous magnetic body or a ferrite.

11. The switch device according to claim 8, wherein the communication means includes a coil antenna.

12. The switch device according to claim 11, wherein the coil antenna and the operation switch are arranged so that an axis of the coil antenna and an axis of the operation switch substantially coincide with each other.

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13. A switch device for use by an operator and connection to an actuator, for enabling the actuator to be driven when an ID code transmitted from a transponder of a portable device matches a predetermined ID code of a vehicle controller, the switch device comprising:

an operation switch operated by the operator for driving the actuator;

a decorative member arranged to surround the operation switch; and

15 a communication means spaced from the decorative member for transmitting a transponder-driving radio wave that causes the transponder to generate electromotive force used to transmit the ID code, the communication means including a ferromagnetic core, for amplifying the transponder-driving radio wave, and a coil wound around the core.

20 14. The switch device according to claim 13, further comprising:

25 a case to which the decorative member is attached and in which the communication means is arranged.

30 15. The switch device according to claim 13, wherein the communication means and the operation switch are arranged so that an axis of the communication means and an axis of the operation switch substantially coincide with each other.

16. The switch device according to claim 13, wherein

the core is made of an amorphous magnetic body or ferrite.

17. A switch device for use by an operator and connection to an actuator, for enabling the actuator to be
5 driven when an ID code transmitted from a transponder of a portable device matches a predetermined ID code of a vehicle controller, the switch device comprising:

an operation switch operated by the operator for driving the actuator;

10 a decorative member arranged to surround the operation switch; and

a communication means arranged adjacent to the decorative member for transmitting a transponder-driving radio wave that causes the transponder to generate

15 electromotive force used to transmit the ID code, wherein the decorative member is separable from the communication means to ensure formation of a magnetic path for the transponder-driving radio wave near the operation switch.

20 18. The switch device according to claim 17, wherein the decorative member is removably attached to the operation switch.

19. The switch device according to claim 17, wherein
25 the decorative member is pressible into the operation switch.

20. The switch device according to claim 17, further comprising:

30 a detection switch for detecting that the decorative member is separated from the communication means at a position ensuring the formation of the magnetic path for the transponder-driving radio wave near the operation switch,

wherein the communication means transmits the transponder-driving radio wave based on the separation of the decorative member detected by the detection switch.

5 21. The switch device according to claim 17, wherein the communication means includes a coil antenna.

10 22. The switch device according to claim 21, wherein the coil antenna and the operation switch are arranged so that an axis of the coil antenna and an axis of the operation switch substantially coincide with each other.

15 23. A switch device for use by an operator and connection to an actuator, for enabling the actuator to be driven when an ID code transmitted from a transponder of a portable device matches a predetermined ID code of a vehicle controller, the switch device comprising:

20 an operation switch operated by the operator for driving the actuator, the operation switch including an operation button and a case;

25 a coil antenna wound around the case for transmitting a transponder-driving radio wave that causes the transponder to generate electromotive force used to transmit the ID code;

30 a decorative member removably attached to the case to surround the operation button and the coil antenna; and

35 a detection switch for detecting that the decorative member has been removed from the case, wherein the coil antenna transmits the transponder-driving radio wave based on the removal of the decorative member detected by the detection switch.